RESEARCH ARTICLE

https://doi.org/10.17059/ekon.reg.2023-2-21

UDC: 330.2, 336.142.2 JEL: A10, H21, K34



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TAX SYSTEM REFORM AS A CHALLENGE TO ECONOMIC REFORM: A CASE STUDY OF JORDAN¹

Abstract. Governments care about the tax system and pay attention to it not as a tool for collecting money, but rather as a tool of economic reform, so that taxes achieve their financial, economic and social goals, and then achieve tax justice and protect the poor and middle class. Thus, this study came to investigate the effect of the tax revenue structure in Jordan on economics reform indicators (per individual income growth rate, public debt, openness trade, and inflation) as a challenge to the economic reform. The study population consists of the public sector of the ministries and public sector departments responsible for preparing the general budget and the Jordanian Department of Statistics, with the aim of relying on data issued by them during the time period 1990-2019. Multiple regression models were used to study hypotheses. The research results showed that direct tax (income and profits tax) in Jordan did not significantly affect the economic reform indicators, while there was a negative significant impact at a significance level ($\alpha \le 0.05$) of sales tax on the economic reform indicators. Additionally, the study found that there is no significant effect of indirect taxes (property tax and foreign trade) on economic indicators relative to GDP represented in per individual income growth rate, public debt, and inflation. Among the recommendations of the study is that Jordan must develop the country's public revenues from its own resources in order to reduce dependence on foreign debt.

Keywords: tax revenue, direct taxes, indirect taxes, economic reform indicators, income and profit tax, property and foreign-trade tax, sales tax, per individual income, growth rate, public debt, openness trade, inflation

For citation: Maswadeh, S. (2023). Tax System Reform as a Challenge to Economic Reform: A Case Study of Jordan. *Ekonomika regiona / Economy of regions, 19(2)*, 575-585. https://doi.org/10.17059/ekon.reg.2023-2-21

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ИССЛЕДОВАТЕЛЬСКАЯ СТАТЬЯ

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Реформа налоговой системы как вызов экономической реформе: пример Иордании

Аннотация. Налоговая система важна не только как инструмент для сбора денежных средств, но и как инструмент экономической реформы, который помогает достичь финансовых, экономических и социальных целей и, в конечном счете, установления налоговой справедливости и поддержки бедного населения и среднего класса. Цель статьи — исследовать влияние структуры налоговых поступлений в Иордании на показатели экономической реформы (темпы роста индивидуального дохода, государственный долг, открытость торговли и инфляцию). Исходя из этого были проанализированы данные, опубликованные государственными министерствами и ведомствами, ответственными за подготовку общего бюджета, а также Департаментом статистики Иордании в период с 1990 г. по 2019 г. Для проверки гипотез были использованы модели множественной регрессии. Результаты исследования показали, что прямые налоги (подоходный налог и налог на прибыль) в Иордании существенно не влияют на показатели экономической реформы, в то время как налог с продаж оказывает отрицательное значимое влияние на изучаемые показатели на уровне значимости ($\alpha \le 0.05$). Косвенные налоги (налог на имущество и внешнеторговый налог) также не оказывают существенного влияния на экономические показатели ВВП, такие как темпы роста индивидуального дохода, государственный долг и инфляция. Можно сделать вывод, что Иордании необходимо повышать государственные доходы за счет собственных ресурсов, чтобы снизить зависимость от внешнего долга.

Ключевые слова: налоговые поступления, прямые налоги, косвенные налоги, показатели экономической реформы, подоходный налог и налог на прибыль, налог на имущество и внешнеторговый налог, налог с продаж, индивидуальный доход, темпы роста, государственный долг, открытость торговли, инфляция

Для цитирования: Масвадех С. (2023). Реформа налоговой системы как экономическая проблема: пример Иордании. Экономика региона, 19(2), C. 575-585. https://doi.org/10.17059/ekon.reg.2023-2-21

1. Introduction

Tax is associated with the existence of authority in the political community, and the development of its concept is coupled with the development of the functions and objectives of this authority. The contemporary concept of taxation is based on the fact that it is considered as one of the main sources of financing and an effective means that enables the government to intervene in economic and social life and direct economic activity. Therefore, research into the tax system and its reform is closely related. With the economic reform, the burden falls on all state institutions.

The economy in the Arab countries, including Jordan, is heading towards engaging in the midst of the global economy and the policy of openness, which highlights the importance of developing the tax system therein, in a manner consistent with developments and the requirements of economic and social development in the country, as the tax system in force consists of a group of direct and indirect taxes, which are covered by legislations and policies.

The tax system in Jordan remained in place without any fundamental reforms that contribute to achieving tax justice and social justice, and alleviate social inequalities. It is a common knowledge that in most of the developed and economically stable countries (not countries that suffer from economic problems), fair taxes are highly dependent on direct taxation (income tax). Shan and Belazouz mention that direct taxes (income tax) are based on the principle of true ascending, as they are paid by the financially able, while indirect taxes, most notably sales tax, are considered unjust taxes. This tax is deducted at consumption and in equal proportions without taking into account the differential incomes of its payers, which pushes towards deepening social inequality, reduces the overall demand for goods and services, and thus puts pressure on the economic growth rates, and leads to an economic slowdown, and will lead to a significant weakening of the purchasing and consumption power of the low-income and poor groups (Shan & Belazouz, 2017).

Nguyen (2019) defined "reformist" policies to get out of the economic impasse, stating that they differ according to the parties that formulate these policies, in addition to the intellectual framework through which these parties view the economy and its objectives. The reform process is the focus of concern for various countries, whether developing or developed, and in order to achieve economic reforms, reform processes must be carried out in various aspects, the most important of which is a financial reform, which was considered the starting point for economic reform, and among the financial reform tools is «taxes».

The weakness of the foundations of the Jordanian economy is due to its high dependence on grants and foreign aid, and that its decrease will negatively affect public revenues and the size of the deficit. Therefore, the government must adopt a clear strategy that includes radical solutions to finance the state budget and enhance its revenues through reforming the tax system as a challenge to economic reform, to reduce the aggravation of poverty and unemployment problems, stimulate investment, and stimulate the performance of economic sectors in various fields in a way that contributes to solving the problems facing the government.

Therefore, the aim of this study is to research the impact of the tax revenue structure represented in the income tax and profits, which are direct taxes, in addition to indirect taxes, of which the sales tax constitutes the largest percentage in improving economic indicators, including the per individual income growth rate, public debt, trade openness and inflation, and for the purpose of reforming the tax system which is considered one of the important economic reform challenges that countries seek in general and Jordan in particular.

Economic reform, social justice, and the elimination of poverty and unemployment require reaching a new balanced tax system that excludes contradictions in the structure of direct and indirect tax revenues, so that the poor class does not continue to pay the taxes of the rich while they do not reap the fruits of development. On the other hand, unbalanced or weak tax systems may cause the emergence of aggressive tax planning and profit transfer practices, among them, for example, some companies and investors transferring their profits and capital to tax havens, taking advantage of the gaps in the various tax systems. In addition, raising sales tax rates will directly affect the overall economic activities, which means major imbalances in the market, especially on the supply and demand side, and a decline in the local market movement, which results in negative effects that prevent wealthy investors from investing in Jordan.

Hence, this study came to answer the following main question: What is the effect of the tax structure on indicators of economic reform relative to gross domestic product represented by per

individual income growth rate, public debt, trade openness, inflation?

In this paper, both direct taxes represented in the income and profit tax will be studied, in addition to indirect taxes, which are divided into sales tax and the property tax and foreign trade.

The highest priority for Jordan is to reach a financial tax system commensurate with the digital economy by linking the tax systems in the income tax departments in modern technology, including smart phones and their applications, cloud computing, the Internet of things, and artificial intelligence applications, taking advantage of this global trend that has entered all sectors, including the public sector, and finding a consensus on how to impose tax on digital companies and electronic trade transactions. Jordan has put forward the idea of a project of eroding the tax base and diverting the profits to the search for tax havens in the first place. In a broader sense, it is not possible to separate the tax policy from the economic and investment vision of the country, or from the general strategy for attracting investments to stimulate some industries and investments in some remote areas. Thus, researchers need to study the tax system not as a tool for collecting fund, but rather as a tool for economic reform, thus pushing the development process, especially in developing societies, so that taxes achieve their financial, economic and social goals, and then achieve tax justice and protect the poor and middle class.

The attempt to study a methodology for collecting the tax from individual and corporate tax-payers, and distributing it equitably to the society in the form of services and rights for citizens, in addition to using it as a tool to stimulate the economy towards more comprehensive real growth that reflects positively on the living standards of all citizens, has become a strategic priority for both developing and developed countries.

Hence, this study came in an attempt to assist in economic reform by researching the structure of direct and indirect tax revenues for the Jordanian budget and their effect on improving economic indicators, including per individual income growth rate, public debt, trade openness, and inflation, and with the aim of reforming the tax system, which is considered one of the most important challenges the economic reform of Jordan is seeking.

2. Literature Review and Theoretical Framework

The true deal of the tax can be express as follows: "not if we have a budget deficit means we have to raise the tax. This is a wrong approach, as the tax should be a flexible tool, that is, it should be used periodically." And that the tax law is not a holy book, but it is subject to change that needs flexibility in application.

Recently, numerous factors were discussed that explain the resort to state governments to increase taxes, and these factors include: reforming the public budget deficit, confronting high oil prices, raising the wages of employees in the government sector, tax evasion in various areas of the private sector, and corruption practices in tax collection, and finally, facing the burdens of war economics and emergency catastrophes. This requires, from state governments' vision, strengthening its financial frameworks, and re-engineering its tax systems, especially in light of the low state resources with which it can obtain the revenues that face the expenditure incurred by them.

Owino (2018) mentioned that taxes have many goals, including financial, economic and social, but among the most important are social goals, which are represented in the redistribution of incomes among members of a society and impose high taxes on the rich class. Moreover, one of the many goals of tax is to use its revenues to finance public services, which mainly benefit people with low incomes.

According to Ali and colleagues, the idea of indirect tax, including sales tax, is based on a basic principle, which states that the individual pays the tax when he buys the commodity, and therefore the person who does not purchase the commodity does not pay its tax, taking into account that the tax on basic commodities is at the lowest level. This type of commodity is needed by the rich and the poor alike. As for luxury goods, they are a type of entertainment and are mainly needed by people with high incomes, and when they are bought, individuals with high incomes pay the tax, and this increases the fairness of this tax, which is collected to finance government spending on public services (Ali et al., 2018).

The global standards summarised the fairness of tax systems as Nour al-Din mentions, can be in three basic principles: 1) Ascending taxation on the incomes of individuals and companies and wealth and granting tax exemptions related to their spending on education, health, etc.; 2) differential indirect tax rate imposed on the goods and services which includes the general tax on sales, special taxes and customs duties; 3) balance in the structure of direct and indirect tax revenues for the public budget (Nour al-Din, 2016).

The use of the term "Tax on foreign trade and the property tax" in Jordan represents the capital operations tax related to the sale of real estate, in addition to taxes on commercial and international transactions, including customs duties, fines and customs imports, so that these taxes are affected by the economic, political and social conditions surrounding the region, and the international agreements that are signed.

Laffer (2004) believes that reducing tax rates leads to a decrease in tax revenues as a result of shrinking the tax base by the same amount in the short run, and with the passage of time and in the opposite side comes the opposite effect that occurs in the long run, so lowering tax rates can be seen as paying money to taxpayers.

The results of expanding economic activities, as Rexha and others concluded in their study, are related in creating new job opportunities and accelerating economic growth, and at the same time, it is expected that public expenditures will decrease, as the expansion of economic activities and their prosperity and the creation of new job opportunities will reduce the financial allowances directed in the general budget to the social safety programs, with the aim of reducing the exacerbation of poverty and unemployment (Rexha et al., 2021).

Kotakorpi and Matikka (2017) concluded that lowering income tax rates increases the voluntary commitment of taxpayers to pay their taxes, which increases the amount of tax revenues in the long run.

In a study conducted by Vrablikova to find out the effectiveness of the economic measures taken by the countries of the European Union, represented in raising tax rates with the aim of maximising tax revenues and reducing financial deficits as a way to fight public debt in the countries of the European Union region, it was revealed that raising tax rates affects the behaviour of individuals charged with taxable income, and pushes them to change their economic activities in order to avoid paying additional taxes by working in other economic activities and sectors that may be exempt from taxes or are subject to low tax rates, which may result in a decrease in the amount of tax revenues for the European Union countries as a result of the contraction of the economy (Vrablikova, 2016).

Laura aims to examine the impact of indirect taxes on economic growth as an important means of diversifying Nigerian public revenues. The results of the study showed that the sales tax has a positive significant effect on economic growth. On the other hand, there was an insignificant negative impact of customs duties and taxes on economic growth. The study concluded that the sources of

indirect taxes have a significant impact on economic growth in Nigeria (Laura, 2019).

Ali and others study the relationship between income tax and tax revenues derived from it, estimating the optimal tax rate to maximise income tax revenues in Kenya, and concluded that the optimal income tax rates should take into account a number of key factors summarised in the form of the population structure of society, its distribution according to earning capacity and income generation, identifying the typical behaviour of employment, and the extent of the availability of social welfare programs to deliver support to those who deserve it among the groups of society, and maximising the benefit of the less fortunate groups in the society (Ali et al., 2018).

Al-Tarawnih (2007) showed that the relationship between tax rates and tax revenues for a sample consisting of 36 Jordanian companies operating in various sectors within the Jordanian economy, and the sample covered a time series that included the period (1980–2004). The study concluded that the actual rate of income tax is less than the optimal tax rate for companies operating in various Jordanian sectors.

Serrato and Zidar study the response of taxpayers' behaviour to the change in the income tax rates of the American economy, concluding that the effects of changes in the tax rate on tax revenues and economic activity depend on the expansion of the tax base, and the changes in tax rules have led to making the corporate tax system more suitable, which has positively affected tax revenues and economic activity (Serrato & Zidar, 2018).

The study of Al-Tamimi and Bataineh identified the impact of tax revenues on the growth of gross domestic product (GDP) in Jordan during the period 2000–2018. The study reached a set of results, the most prominent of which is the existence of a positive impact of tax revenues on the growth and increase of GDP in Jordan. However, there is no joint integration between tax revenues and GDP in Jordan. The study indicated the need to make amendments to the tax law in order to suit the living conditions of individuals and diversify the sources of income for the Jordanian economy, and not to rely entirely on tax revenues as a main source of public revenues for the state (Al-Tamimi & Bataineh, 2021).

Koatsa with colleagues aimed to test the effect of tax revenue as a percentage of GDP on economic growth in Lesotho. The results of the study revealed that there was no causal effect of tax burden on economic growth in Lesotho. The study also concluded that it was not possible to deter-

mine the optimal tax burden because the benefits variables were negative and not statistically significant, which can be considered an indication of the lack of importance of tax policy in stimulating economic performance in Lesotho (Koatsa et al., 2021).

The study of Alshira'h et al. (2021) examined the impact of the income tax rate on sales tax compliance among Jordanian companies listed on the Amman Stock Exchange to reduce the financial deficit and public debt by providing financing to meet economic and social development. The study concluded that compliance is still a problem in light of its negative impact on government revenues.

Ollivaud (2012) examined the development of the tax system in Indonesia, both in terms of collected revenues and in terms of efficient administration. The study concluded that the best way to achieve an increase in tax revenues is through the expansion of tax bases and tax improvement rather than changes in the tax schedule that seem generally compatible with international practices, subjecting additional benefits and allowances provided by the employer to income tax and reducing exemptions from value-added taxes (sales tax). In addition to providing a targeted and simplified tax system for small and medium-sized companies that enable them to grow and develop, and enhance their integration into the tax system in the long term, collectable on export and recently identified property restrictions.

Rum and Kusumawardani (2020) analysed the impact of industrial growth on government tax resources in South Sulawesi Province. The results showed that industrial growth had a significant and positive impact on the possibility of increasing tax resources in South Sulawesi. Environmental resources greatly affect the potential increase in taxes, so the strengthening of tax resources lies in reducing bureaucracy in granting licenses to industrial companies, and facilitating the participation of local farmers in economic contributions.

Hang and others tested the effect of tax policy on social development in Vietnam. Tax policy was measured by the ratio of government tax revenue to GDP, and social development was measured by unemployment (UNE). The study concluded that there is a negative impact of tax policy on unemployment in Vietnam in the long run. It was found that there is a significant effect of domestic and investment savings on unemployment in the short and long term, which indicates that tax policy plays an important role in unemployment as well as social development in Vietnam (Hang et al., 2020).

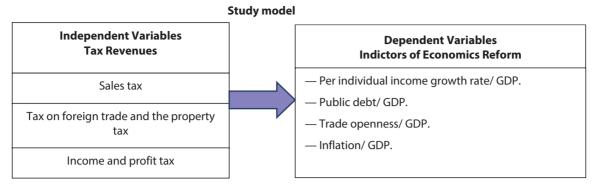


Fig. Study model (sources: constructed by the author)

Shakkour and colleagues aimed to determine the factors affecting compliance with value-added tax (sales tax) in Jordanian small and medium-sized companies using the proposed conceptual model under study. The study found that there is a strong positive relationship between personal characteristics, education, and value-added tax compliance according to theoretical foundations. in addition to the existence of a positive relationship between the audit system and value-added tax compliance in Jordan (Shakkour et al., 2021).

Salehi et al. (2019) test the relationship between tax evasion and corporate risk in an emerging market in Iran. The results showed that there was no statistically significant relationship between tax evasion and future taxes. The results also proved that lower tax rates are positively related to stock price volatility in the future. This implies that since Iranian companies are experiencing many financial problems due to economic sanctions, they tend to delay the disclosure of bad news about their companies which leads to marked fluctuations in stock prices.

Zeng et al. (2013) studied the impact of the tax reform mechanism during the period (1950–2011) on the total tax revenue and its structure in China. The study relied on descriptive statistics and multi-segment linear regression analysis of the main components of total tax revenues and their structure consisting of three aspects: total tax, value-added tax, and income tax. The results of the study showed that economic reforms measures have a significant impact on total tax revenues and structural changes. In addition to achieving long-term stability in total tax revenues, as each tax reform shows a clear impact on the tax structure, the effect of changes in total tax revenue diminishes over time.

In light of what has been reviewed from the previous studies, the study hypotheses have been developed as follows:

— There is no significant effect ($\alpha \le 0.05$) of indirect taxes (sales tax) on economic indicators rel-

ative to gross domestic product (GDP) represented in per individual income growth rate, public debt, trade openness, and inflation;

- There is no significant effect ($\alpha \le 0.05$) of indirect taxes (property tax and foreign trade) on economic indicators relative to GDP represented in per individual income growth rate, public debt, trade openness, and inflation;
- There is no significant effect ($\alpha \leq 0.05$) of direct taxes (income and profit tax) on economic indicators relative to GDP represented in per individual income growth rate, public debt, trade openness, and inflation.

Then we can clarify the assumptions of the study as model below (Fig.).

3. Data and Methods

In this study, the applied analytical approach will be followed by addressing the theoretical framework related to previous concepts and studies that dealt with the subject of the study, and a practical framework based on data related to the tax revenue items for the final accounts of the general budget issued by the Jordanian Ministry of Finance during the period 1990–2019, in addition to relying on the annual public debt bulletins and the Jordanian Department of Statistics.

3.1. Study Population

The study population consists of the public sector of the ministries and public sector departments responsible for preparing the general budget and the Jordanian Department of Statistics, with the aim of relying on data issued by them during the time period 1990–2019.

3.2. Statistical Methods Used for Analysing Data

The SPSS-statistics programme was used to examine the study data and test its hypotheses; whereas, the suitability of the data was examined for the multiple regression analysis by checking the normal distribution of the data by calcu-

lating the value of the Skewness and Kurtosis for all variables, and the multicollinearity test using the Variance Inflation Factor-VIF for each one of the independent variables. To test the absence of the data from the autocorrelation test problem between the random error limits in the regression model, the Durbin-Watson test was relied on. To test the effect of independent variables on the dependent variables, the regression models were formulated in the form of multiple regression equations.

4. Statistical Results

To verify the validity of the study data for the multiple regression tests, several tests were performed.

4.1. Test of Normality

One of the conditions for validity of the General Linear Model (GLM) is that the values of the observations follow the normal distribution, and in the event that this condition is not met, the data is processed using the natural logarithm or the square root of it, and other measures. The Skewness and Kurtosis test was used to test the normal distribution, whose results were as follows (Table 1).

It is noticed from Table 1 with regard to the two indices of skewness and kurtosis that all the variables meet the condition of a normal distribution, as previous studies showed the values of the skewness index for all variables, were between 1.5 and -1.5, and the kurtosis value for all variables was between -4 and 4 (Kim, 2013; Kamiya et al., 2014). The exception is the inflation variable, where it was noticed that there was a large fluctuation in its percentage during 1990–2019, as shown in Table 4, «the descriptive statistics of the study variables».

4.2. Multicollinearity Test

To test the validity of the study data for statistical analysis, the multicollinearity test was performed, and to ensure that there is no linear interference between the independent variables in the study models, the Variance Inflation Factor (VIF) and Tolerance were relied upon, shown in Table 2 as follows.

By relying on the values of the variance inflation factor to detect the phenomenon of linear interference, and upon reviewing Table 2 and regarding this indicator, it was found that the sales tax, income tax and profits had obtained VIF values less than 5, and the value of the tolerance increased from 20 %, this means as previous studies concluded there is no linear

Table 1
The Normal Distribution Test

Variables	Skewness	Kurtosis	
Sales tax	-0.401	1.308	
Income and profits tax	0.944	1.290	
Tax on foreign trade and the property tax	0.310	-1.259	
Per individual income growth rate	0.410	-0.547	
Public debt	-1.435	1.403	
Trade openness	0.729	0.194	
Inflation	2.585	7.803	

Source: Result output from SPPS statistical analysis.

Table 2

With the officerity lest					
Variables	VIF	Tolerance			
Sales tax	1.017	0.983			
Income and profits tax	1.017	0.983			
Tax on foreign trade and the property tax	29 501.36	3.390E-005			

Multicollinearity Test

Source: Result output from SPPS statistical analysis.

overlap problem between these two variables and the ability to keep them in the study models (Thompson et al., 2014; Babbie et al., 2018). With regard to the tax on foreign trade and the property tax variable, it has been shown that the inflation factor has increased significantly, which confirms the existence of a linear overlap between this variable and other independent variables, so it was excluded from the study models.

4.3. Autocorrelation Test

According to Maxwell and David, one of the regression conditions is the absence of the data from the autocorrelation problem, which is defined as the existence of a correlation between the random error limits in the regression model, which results in a bias in the value of the estimated parameters, and thus the model's ability to predict. This is confirmed by conducting the Durbin-Watson Test, which is the most commonly used. According to Maxwell and David, the statistically acceptable value of this test ranges between the two numbers 0 and 4 (Maxwell & David, 1995).

Table 3 shows the results of the Durbin-Watson test for the study samples.

Table 3 shows that all the D-W values of the variables in the regression models have a value ranging between the two numbers (0 and 4), which indicates that the study data is devoid of the Autocorrelation test problem, that is, there is no correlation between random error limits in the studied regression models.

Autocorrelation Test

Table 3

Calculated models result D-W value Model 1 Per individual 0.367 No autocorrelation income growth rate Model 2 Public debt 0.443 No autocorrelation Model 3 Openness trade 0.497 No autocorrelation Model 4 Inflation 1.657 No autocorrelation

Source: Result output from SPPS statistical analysis.

4.4. Tests Hypotheses

In this part, the study hypotheses relating to the impact of direct and indirect taxes on economic indicators relative to GDP will be tested, represented in per individual income growth rate, public debt, trade openness, and inflation. Moreover, as explained in Table 2, which is related to the multicollinearity test for the study variables, the tax on foreign trade and the property tax variable was excluded from the study models due to the significant increase in the inflation factor.

Therefore, the multiple regression tests were used to examine the effect of both direct and indirect taxes on indicators of economic reform in Jordan, the study reached the following most important results, which are shown in Table 4.

With reference to Table 4, the value of Sig. (F) for all the study models was significant at a significant level ($\alpha \le 0.05$). It indicates that the quality of the regression models is reconciled and they are suitable to represent the impact between tax revenues and economic indicators, with the exception of the third model related to the impact of tax revenues on trade openness, where Sig. (F) value was more than 5 %, meaning that the third regression model failed to explain the effect of tax revenues on trade openness, thus this model was

excluded from the study because of its statistical failure. The researcher attributes this result to the surrounding conditions in the region and the inability to compete with global trade, in addition to that, it is an indication of the weakness of local products to compete with foreign products, which weakened trade openness in them, and also this means that the trade openness in Jordan is affected by other factors that were not addressed in the present study model.

As for the value of Adjusted R^2 that demonstrates the ability of the model to explain the fluctuations occurring in the economic indicators through the combined tax revenues (sales tax, income tax and profits), it was found that the highest value of Adjusted R2 in the first model related to per individual income growth rate, followed by the second model related to public debt, so that Adjusted R^2 is 0.925 and 0.722, respectively, which is an indication that tax revenues (sales tax, income tax and profits) explained 92.5 % of the change in the per individual income growth rate, and explained the change in public debt by 72.2 %.

The model related to inflation came in last place, so that the combined tax revenues (sales tax, income tax and profits) accounted for 16.2 % of the change in inflation rates, which is an indication that tax revenues modestly explain the change in inflation, and the researcher explains this result in the presence of other factors which are affected as intermediate variables in tax revenues, which in turn affect more inflation rates.

By referring to the values of the coefficient (B) for the study variables related to the sales tax and its impact on the economic indicators, it was noticed that the sales tax had a negative impact on economic indicators per individual income growth rate, public debt, and inflation, as the val-

Results of multiple regression: impact of tax revenues on economic reform indicators

variables	Coefficient	Sig (T)	F	Sig (F)	djusted-R ²		
Model 1 Per individual income growth rate $PAG_{i,t} = a_0 + \beta_1 ST_{i,t} + \beta_2 OTT_{i,t} + \beta_2 ITP_{i,t} + \varepsilon_{i-t}$							
Sales tax (ST)	-3.177E-007	0.000	179.189	0.000			
Income and profits tax (ITP)	-1.136E-007	0.232			0.925		
Model 2 Public debt $Dept_{i,t} = a_0 + \beta_1 ST_{i,t} + \beta_2 OTT_{i,t} + \beta_2 ITP_{i,t} + \varepsilon_{i-t}$							
Sales tax (ST)	-2.152	0.000	38.645	0.000			
Income and profits tax (ITP)	2.273	0.099			0.722		
Model 3 Openness trade Trade _{i, t} = $a_0 + \beta_1 ST_{i, t} + \beta_2 OTT_{i, t} + \beta_2 ITP_{i, t} + \varepsilon_{i-t}$							
Sales tax (ST)	0.270	0.067	1.968	0.159			
Income and profits tax (ITP)	0.225	0.772			0.063		
Model (4) Inflationi, $t = a_0 + \beta_1 ST_{i,t} + \beta_2 OTT_{i,t} + \beta_2 ITP_{i,t} + \varepsilon_{i-t}$							
Sales tax (ST)	-0.134	0.018	3.797	0.035	0.162		
Income and profits tax (ITP)	0.423	0.157			·		

Source: Result output from SPPS statistical analysis.

Table 4

ues of (B) coefficients for each of them reached (-3.177E-007, -2.152, -0.134), respectively, and at a significant level (Sig \leq 0.00), indicating that the sales tax has negatively affected both the per individual income growth rate, debt, and inflation, thus rejecting the null hypothesis and the possibility of accepting the alternative hypothesis which states that: "There is a significant effect (Sig \leq 0.05) of indirect taxes (sales tax) on economic indicators to GDP represented by per individual income growth rate, public debt, and inflation".

This result can be attributed to the fact that the increase in sales tax rates on goods and services leads to a decrease in the volume of aggregate demand and thus the accumulation of goods and services in the markets, and the decline in per capita income growth rates affected by the decline in aggregate demand, and this leads to a contraction of the economy, limited opportunities for employment and high unemployment rates, which resulted in a corresponding increase in inflation rates in the economy, and as a result, the economy entered a phase of slowing and eroding the tax base and lowering revenues from it, all of which led to a decrease in the amount of tax revenues and an increase in the budget deficit, and this negatively affected the state's ability to pay off the public debt and its debt burdens, and thus the indicators of economic growth and sustainable development of the state decline.

By referring to the values of the coefficient (B) of the study variables related to income tax and its impact on economic indicators, it was noted that the income tax did not have a significant effect on per individual income growth rate, public debt and inflation, at a significance level (Sig \leq 0.05) so that the values of the significance level Sig. (T) reached 0.232, 0.099, 0.157, respectively, for both of them. This proves the possibility of accepting the null hypothesis of the study, which states that: "There is no significant effect (Sig \leq 0.05) of direct taxes (income and profits tax) on economic indicators relative to GDP — represented by: (per individual income growth rate, public debt, and inflation).

As previously explained, the multicollinearity test with respect to the property tax variable and foreign trade has shown a significant increase in the inflation factor, which confirms the existence of a linear overlap between this variable and the other independent variables. Therefore, it was excluded from the study models for not being suitable for the multiple regression tests. Accordingly, the null hypothesis was accepted, which states that: "There is no significant effect (Sig \leq 0.05) of indirect taxes (property tax and foreign trade) on

economic indicators relative to GDP represented in per individual income growth rate, public debt, and inflation.

5. Discussion and Conclusions

After reviewing the results of the statistical analysis, the following most prominent conclusions were reached.

The results of the statistical analysis showed a significant negative effect of the tax sales on the economic growth indicators. Therefore, the presence of fair sales tax rates leads to encouraging demand for goods and services, which is reflected in the growth of the industrial sector, in the long run reflected in prosperity and growth of the economic.

The results of the statistical analysis showed that the inability of developing countries, including Jordan, to compete with global trade weakens public revenues from foreign trade tax. Therefore, the customs reform and amendment of the customs law with the aim of simplifying customs procedures and providing transparency, the customs procedures in line with globally customs developments, and the automation of customs operations will lead to growth in economic activities.

The statistical results showed that the amendment of the investment law to serve the expansion of the base of foreign and local investment, and the determination of the studied income tax rate according to fair progressive segments, encourages local and foreign stock companies to invest in various fields that reflect positively on economic stability and sustainable development.

It is necessary to adopt a new methodology that avoids imposing new taxes or increasing the current tax rates, so that the Arab citizen does not bear the burdens of financial reform policies associated with increasing taxes. This methodology includes strengthening tools to combat tax and customs evasion, activating the necessary means to strengthen tax administrations procedures, and controlling the budget deficit and reducing it through controlling and rationalising public expenditures and enhancing their efficiency.

It is advisable to reduce indirect taxes that affect poor class, the least able to bear their burdens, including the value added tax (sales tax) which is imposed on consumer goods. It will contribute to activating the wheel of economic activity, so that the citizen offers to buy, which increases the volume of consumption and injects a big monetary mass on the economy, and an exception to this reduction is luxury goods that are considered nonessential and valuable, such as jewellery, yachts, and luxury cars.

Modern technical developments related to automating the operations of income tax departments in all aspects should be considered, as its impact on the effectiveness of procedures for increasing tax collections is one of the most important sources of financing the county's public revenues.

Comments provided by the private sector should be taken into consideration by law-makers in order to reach consistent, modern and stable tax laws and legislation; it is the party most affected from this legislation aiming to reach a positive situation of stability of the laws for the longest possible period; specially the different changes in tax laws and legislation reflect negatively on the economic situation in general.

It is suggested to abolish the authorities of the Council of Ministers in determining goods subject to general tax on sales and special tax, and return this authority to the National Elected Parliament, meaning that the tax and fee are not imposed except by law.

The industrial sector, which is the engine of real growth in the economy, should be supported by financing faltering factories through mutual fund institutions designed to develop distressed factories, encouraging them through exempt from income tax for several years, and reducing customs duties on raw materials needed for industry. Production costs should be reduced and competitiveness for export should be encouraged in a way that promotes sustainable development and reduces unemployment, because economic reform requires investment in a safe environment that can only be achieved by providing job opportunities for citizens, and re-de-

veloping the industrial sector, which is an important step and needs more support for this sector.

The investment law should be amended in a way that serves to expand the base for investment, and to implement regional and international agreements related to the establishment of the Greater Arab Free Trade Area, free trade zone agreements between Arab countries, and partnership with international countries.

It is required to simplify customs procedures and provide transparency in the completion of customs transactions, linking it with all ports and customs border outlets, and the air and sea, with the aim of developing the country's public revenues from its own resources, reducing dependence on foreign debt, enhancing the volume of foreign currencies, in a way that enhances trade openness and encourages foreign investment in Arab countries, including Jordan.

6. Limitations, Themes for Future Research

The main limitation of the study is related to the great accuracy in obtaining economic reform indicators from its various sources, including: per individual income growth rate, public debt, trade openness, and inflation. The need to rely on long periods of time when dealing with economic reform indicators in order to reach reliable results from which conclusions can be drawn is another limitation.

The current study proposes conducting future studies that include new economic reform indicators and applying this study in neighbouring Arab and international countries, with the aim of enhancing the results reached in this study.

References

Ali, A. A., Ali, A. Y. S. & Dalmar, M. S. (2018). The impact of tax revenues on economic growth: A time series evidence from Kenya. *Academic Research International*, *9*(3), 163–170.

Alshira'h, A. F., Magablih, A. M. & Alsqour, M. (2021). The effect of tax rate on sales tax compliance among Jordanian public shareholding corporations. *Accounting*, 7(4), 883–892. DOI: https://doi.org/10.5267/j.ac.2021.1.020

Al-Tamimi, K. A. M. & Bataineh, A. (2021). The effect of tax revenues on GDP growth in Jordan. *Accounting*, 7(3), 655–660. DOI: https://doi.org/10.5267/j.ac.2020.12.012

Al-Tarawnih, M. S. (2007). Estimating Laffer curve for profit tax in selected Jordanian companies. *Administrative Sciences Studies*, 34(2), 338–347.

Babbie, E., Wagner III, W. E. & Zaino, J. (2018). Adventures in social research: Data analysis using IBM SPSS statistics. Sage Publications, 536.

Hang, N. P. T., Nguyen, M.-L. T., Ho, H. T. & Bui, T. N. (2020). The impact of tax policy on social development in Vietnam. *Management Science Letters*, *10*(*5*), 995–1000. DOI: https://doi.org/10.5267/j.msl.2019.11.011

Kamiya, A., Murayama, S., Kamiya, H., Yamashiro, T., Oshiro, Y. & Tanaka, N. (2014). Kurtosis and skewness assessments of solid lung nodule density histograms: differentiating malignant from benign nodules on CT. *Japanese Journal of Radiology*, 32(1), 14–21.

Kim, H.-Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, *38*(1), 52-54.

Koatsa, N., Paramaiah, C. & Scona, M. (2021). Tax burden and economic growth in Lesotho: An estimate of the optimal tax burden. *Accounting*, *7*(3), 525–534. DOI: https://doi.org/10.5267/j.ac.2021.1.006

Kotakorpi, K. & Matikka, T. (2017). Revenue-maximizing top earned income tax rate in the presence of income-shifting. *Nordic Tax Journal*, *1*, 100–107.

Laffer, A. B. (2004). The Laffer Curve: Past, Present, and Future. *Backgrounder*, 4999(1765), 1–16. Retrieved from: www.heritage.org/research/taxes/bg1765.cfm

Laura, U. A. (2019). Impact of Indirect Taxation on Economic Growth in Nigeria. *International Journal of Advanced Engineering Research and Science*, *6*(*5*), 54–61.

Maxwell, L. K. & David, C. H. (1995). The application of the Durbin-Watson test to the dynamic regression model under normal and non-normal errors. *Econometric Reviews*, *14*(*4*), 487–510.

Nguyen, H. H. (2019). Impact of direct tax and indirect tax on economic growth in Vietnam. *Journal of Asian Finance, Economics and Business*, *6*(4), 129–137. DOI: https://doi.org/10.13106/jafeb.2019.vol6.no4.129

Nour al-Din, H. (2016). The Impact of Tax System Reform (1st ed.). Zahran Publishing and Distribution, 345.

Ollivaud, P. (2012). *Spending in Indonesia*. PAPERS (No. 998; Issue 1381). Retrieved from: http://www.oecd.org/eco/Workingpapers

Owino, O. B. (2018). The trade off between direct and indirect taxes in Kenya: An empirical analysis. *Journal of Economics and Development Studies*, 6(4), 187–201.

Rexha, D., Bexheti, A. & Berisha, H. (2021). The impact of direct and indirect taxes on economic growth: an analytical approach from the Republic of Kosovo. *International Journal of Public Sector Performance Management, 7(1), 74–86.*

Rum, M. & Kusumawardani, A. (2020). Industrial Growth and Environmental Resource toward the Tax Potential: A Case Study in South Sulawesi Province. *Journal of Asian Finance, Economics and Business, 7(10),* 201–210. DOI: https://doi.org/10.13106/jafeb.2020.vol7.no10.201

Salehi, M., Khazaei, S. & Tarighi, H. (2019). Tax Avoidance and Corporate Risk: Evidence from a Market Facing Economic Sanction Country. *The Journal of Asian Finance, Economics and Business*, 6(4), 45–52. DOI: https://doi.org/10.13106/jafeb.2019.vol6.no4.45

Serrato, J. C. S. & Zidar, O. (2018). The structure of state corporate taxation and its impact on state tax revenues and economic activity. *Journal of Public Economics*, 167, 158–176.

Shakkour, A. S. K., Almohtaseb, A. A., Matahen, R. K. & Sahkkour, N. A. S. (2021). Factors influencing the value added tax compliance in small and medium enterprises in Jordan. *Management Science Letters*, *11*, 1317–1330. DOI: https://doi.org/10.5267/j.msl.2020.11.007

Shan, A. & Belazouz, B. A. (2017). Tax reforms as a tool for Modernize and Develop tax administration with reference to the case of Algeria. *The Academy of Social and Humanitarian Studies*, *9*(17), 67–74.

Thompson, C. G., Kim, R. S., Aloe, A. M. & Becker, B. J. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and Applied Social Psychology*, 39(2), 81–90.

Vrablikova, V. (2016). The Impact of Indirect Taxes on Economic Growth. Politicka Ekonomie, 64(2), 145-160.

Zeng, K., Li, S. & Li, Q. (2013). The Impact of Economic Growth and Tax Reform on Tax Revenue and Structure: Evidence from China Experience. *Modern Economy*, *4*(12), 839–851. DOI: https://doi.org/10.4236/me.2013.412091

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Дата поступления рукописи: 29.04.2021. Прошла рецензирование: 21.12.2021. Принято решение о публикации: 24.03.2023. Received: 29 Apr 2021.

Reviewed: 21 Dec 2021.

Accepted: 24 Mar 2023.